### DENVER FORECAST DISTRICT

The month was cold and stormy in Montana, northern Wyoming, and northern Utah. Temperatures above normal, with a deficiency in precipitation, prevailed in southeastern Wyoming, Colorado, southern Utah, Arizona, and New Mexico.

In addition to the usual LOWS from the North Pacific a number of disturbances advanced eastward from the southern Rocky Mountain and Plateau regions, several of which attained unusual intensity. The first of these advanced to eastern Colorado on the evening of the 7th. At 8 a. m. of the 8th the barometer at Pueblo had fallen to 28.92 inches (sea level), with precipitation in nearly all portions of the district. Heavy rain or snow fell during the day in central and eastern Colorado, eastern Wyoming, and eastern Montana, and gales were experienced from New Mexico northward to Wyoming during the slow northeastward movement of the storm. This disturbance was followed by freezing temperatures in Montana, Wyoming, northern and western Colorado, north-central and northeastern Arizona, and southern and eastern Utah.

Another storm of marked intensity advanced eastward across the district from the southern portion of the Rocky Mountain region during the period from the 18th to the 22d. General rain or snow fell in Montana, Wyoming, and Utah, with gales in the southeastern portion of the district. Freezing temperatures again occurred on the southern portion of the Plateau from the 22d to the 25th and in western Colorado on the 23d and 24th.

Rain or snow in the northern portion of the district also resulted from the final notable storm of the month which moved across the district from the 25th to the 29th. Freezing temperatures occurred on the 29th and 30th in portions of western Colorado, north-central and northeastern Arizona, and Utah.

Special wind forecasts, principally in the interest of aviation, were issued for Colorado and Wyoming, or portions of these two States, on the evenings of the 1st, 6th, 19th, 20th, and 21st, and on the mornings of the 8th, 17th, and 20th. These were generally verified.

Frost or freezing temperature warnings, which received general verification, were issued on the 2d, 3d, 8th, 9th, 10th, 14th, 18th, 20th, 21st, 22d, 23d, 24th, 28th, 29th, and 30th for those portions of the district where they were needed.—*J. M. Sherrier.*

### SAN FRANCISCO FORECAST DISTRICT

Except for several days of unusual warmth about the middle of May, temperatures over the district as a whole were below normal for the greater part of the month, and numerous warnings of light to moderately heavy frost were required for the elevated regions lying to the eastward of the Cascade and Sierra Nevada Mountains. On a few of these occasions, early in the month, conditions were extreme enough to require protective measures in the orchard sections of eastern Washington and light firing was done in the Rogue River Valley of western Oregon on one occasion.

Storm warnings were issued for north coast points on two dates, the 1st and 11th, when disturbances of rather unusual intensity for so late a month approached from the Gulf of Alaska. The first of these passed directly inland attended by winds of gale force north of Cape Blanco. The behavior of the second was more characteristic of the month of May; it halted upon reaching the coast, to redevelop later in milder form over the interior of Canada. Strong winds along the Washington coast, however, accompanied its approach, and gales were undoubtedly experienced at sea.—*E. H. Bowie.*

## RIVERS AND FLOODS

By H. C. FRANKENFIELD

The great Mississippi flood continued during the month and, as has been stated before, a complete report thereon will be made at a later date.

*Atlantic and east Gulf drainage.*—The only flood reported was a very moderate local one in the upper Tombigbee River of Mississippi. It lasted only two days, only a few acres of the lowest river bottoms were covered, and the damage was negligible.

*Ohio drainage.*—The interior rivers of Ohio, Indiana, and Kentucky were high during the last decade of the month, with a great flood in the extreme upper Kentucky River, and another but somewhat less severe one in the Wabash River of Indiana. The Kentucky River flood was caused by excessive rains during the night of May 29–30, the amount ranging from 4 to 4.5 inches and probably more in some places. At times the rate of fall was from 1 to 1.5 inches per hour, with the heaviest fall, greatest loss of life, and most destructive flood conditions along the North Fork of the Kentucky River. The number of persons missing or known to have been drowned was 89, and incomplete reports indicated a loss and damage total of between $6,000,000 and $7,000,000. At Hazard, Ky., alone the losses amounted to $2,000,000, of which perhaps 75 per cent were railroad losses. Both highway bridges were swept away as the river reached a stage of 36.98 feet, 15.98 feet above flood stage, at 11 a. m. May 30, and the Louisville & Nashville Railroad Co. lost 15 bridges, mainly on branch lines in Letcher County. The flooded area covered the district from Morgan County on the north to Harlan County on the south and thence eastward to the State line. As the flood began during the night, many homes were surrounded by water before the inmates became aware of the danger, and for many there was no possibility of escape. Ten or fifteen thousand people were made homeless, and perhaps 20,000 idle through enforced suspension of business, mostly coal mining, and to the reported losses there must also be added a few millions on account of loss of wages. The river at Hazard according to old residents was about 1 foot higher than in 1862, the highest known water previous to 1927.

The Wabash River flood was still in progress at the end of the month, and report thereon will be made later. Prospective losses will be considerable as the delay in spring planting may mean the loss of an entire crop in the river bottoms.

The floods in the interior rivers of Ohio were very moderate. Warnings were issued promptly and there were no losses of consequence. There were also moderate floods in the Ohio River between Evansville, Ind., and Shawneetown, Ill., and in the Green River of Kentucky. These floods caused no material damage and they subsided during the first week in June. Their principal effect was to further delay farming operations in the bottom cornlands.

A very severe rain and hailstorm during the early morning of May 30 in Johnson, Carter, Sullivan, and Greene Counties, Tenn., and Lee, Scott, Washington, and Smith Counties of southwestern Virginia caused a decided rise in the three forks of the Holston River, the drowning